

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (original) An electrochemical cell comprising a cathode, an anode and an electrolyte, wherein:
the anode comprises titanium dioxide or a lithium titanate; and
the electrolyte comprises an aqueous solution containing lithium and hydroxide ions.
2. (original) A cell according to Claim 1, in which the titanium dioxide or lithium titanate is mesoporous.
3. (original) A cell according to Claim 2, in which the mesoporous titanium dioxide or lithium titanate has a periodic arrangement of substantially uniformly sized pores of cross-section of the order of 10^{-8} to 10^{-9} m.
4. (currently amended) A cell according to ~~any one of the preceding Claims~~ Claim 1, in which the positive electrode is formed of a mesoporous material.
5. (original) A cell according to Claim 4, in which the mesoporous material is a metal, a metal oxide, a metal hydroxide, a metal oxy-hydroxide or a combination of any two or more of these.
6. (currently amended) A cell according to Claim 4 ~~or Claim 5~~, in which the mesoporous material comprises a metal selected from: nickel; alloys of nickel, nickel/cobalt alloys and iron/nickel alloys.
7. (original) A cell according to Claim 6, in which the metal is nickel.

8. (currently amended) A cell according to ~~one of Claims 2 to 7~~ Claim 2 or 4, in which the mesoporous structure of the positive and/or negative electrode has a pore diameter within the range from 1 to 10 nm, preferably from 2.0 to 8.0 nm.

9. (currently amended) A cell according to ~~any one of Claims 2 to 8~~ Claim 2 or 4, in which the mesoporous structure of the positive and/or negative electrode has a pore number density of from 4×10^{11} to 3×10^{13} pores per cm^2 , preferably from 1×10^{12} to 1×10^{13} pores per cm^2 .

10. (currently amended) A cell according to ~~any one of Claims 2 to 9~~ Claim 2 or 4, in which at least 85% of the pores in the mesoporous structure of the positive and/or negative electrode have pore diameters to within 30%, preferably within 10%, more preferably within 5%, of the average pore diameter.

11. (currently amended) A cell according to ~~any one of Claims 2 to 10~~ Claim 2 or 4, in which the mesoporous structure of the positive and/or negative electrode has a hexagonal arrangement of pores that are continuous through the thickness of the electrode.

12. (original) A cell according to Claim 11, in which the hexagonal arrangement of pores has a pore periodicity of in the range from 5 to 9 nm.

13. (currently amended) A cell according to ~~any preceding~~ Claim 2 or 4, in which the mesoporous structure of the positive and/or negative electrode is a film having a thickness in the range from 0.5 to 5 micrometers.

14. (currently amended) A cell according to ~~any one of Claims 2 to 10~~ Claim 2 or 4, in which the mesoporous structure of the positive and/or negative electrode has a cubic arrangement of pores that are continuous through the thickness of the electrode.

15. (original) A cell according to Claim 1, in which the titanium dioxide or lithium titanate is nanoparticulate.
16. (currently amended) A cell according to ~~any of the preceding Claims~~ Claim 1, in which the anode comprises titanium dioxide.
17. (currently amended) A cell according to ~~any one of the preceding claims~~ Claim 1, in which the anode comprises a lithium titanate.
18. (original) A cell according to Claim 17, in which the lithium titanate is $\text{Li}_4\text{Ti}_5\text{O}_{12}$.
19. (currently amended) A cell according to ~~any one of the preceding Claims~~ Claim 1, in which the electrolyte comprises an aqueous solution of lithium hydroxide.
20. (currently amended) A cell according to ~~any preceding Claim~~ 1, which is a battery.
21. (currently amended) A cell according to ~~any one of Claims 1 to 19~~ Claim 1, which is a supercapacitor.